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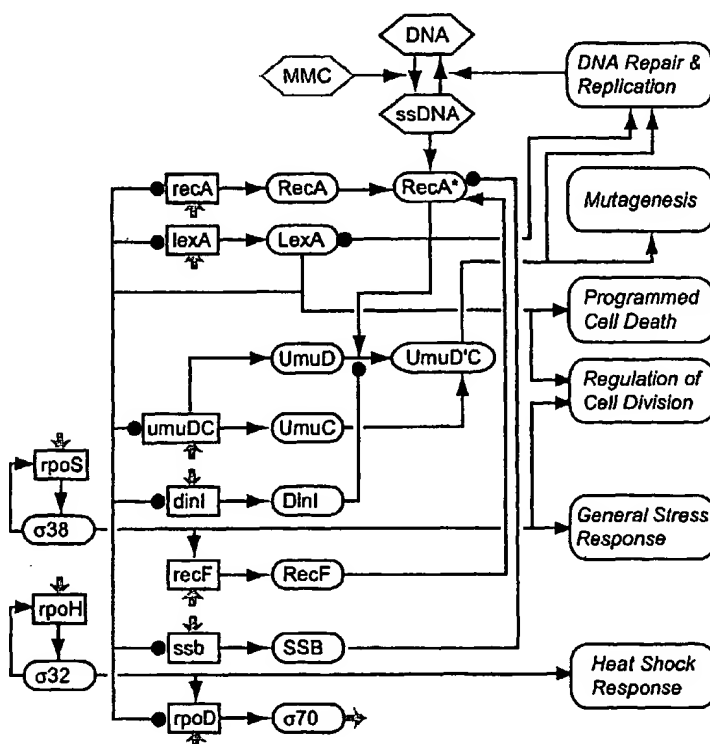
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(54) Title: SYSTEMS AND METHODS FOR REVERSE ENGINEERING MODELS OF BIOLOGICAL NETWORKS



(57) Abstract: The present invention provides methods and accompanying computer-based systems and computer-executable code stored on a computer-readable medium for constructing a model of a biological network. The invention further provides methods for performing sensitivity analysis on a biological network and for identifying major regulators of species in the network and of the network as a whole. In addition, the invention provides methods for identifying targets of a perturbation such as that resulting from exposure to a compound or an environmental change. The invention further provides methods for identifying phenotypic mediators that contribute to differences in phenotypes of biological systems.



European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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## INTERNATIONAL SEARCH REPORT

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**A. CLASSIFICATION OF SUBJECT MATTER**

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According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,930,154 A (THALHAMMER-REYERO) 27 July 1999, col. 5, lines 1-15, col. 7, lines 30-40, col. 15, lines 27-64, col. 16, lines 14-53, col. 20, lines 24-47, col. 30, line 49 - col. 31, line 14, col. 31, line 27 - column 32, line 28.	1-85
A	US 5,390,282 A (KOZA et al.) 14 February 1995.	1-85
A	US 5,808,918 A (FINK et al.) 15 September 1998.	1-85



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See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"O" document referring to an oral disclosure, use, exhibition or other means	
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